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ABSTRACT

The relative appeal and effectiveness of several television lesson formats designed for adult learners in an open university learning system were evaluated. One hundred and fifty-four subjects viewed video lesson segments in two college course areas, Accounting and Psychology. A variety of TV formats were used, including story-lines, short vignettes, animation, sharers of information, and illustrated lectures. The intent was to produce instructional television rather than televised instruction. Subjects responded to content and attitude questionnaires and were interviewed in depth. The results suggested guidelines for acceptable formats for instructional television designed for adult learners. (Author)

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Evaluation of a Variety of Television Lesson Formats for Potential Adult Learners in an Open Learning System

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Purpose

A major new thrust in higher education today is to make college credit more accessible to people wherever they may live or work. Accessibility implies more than open admissions and more residence halls; it means reaching students where they are at physically and educationally.

The State University of Nebraska (S-U-N) is designed to be a multi-media off-campus approach to college education, similar to England's Open University. S-U-N will utilize a variety of media and means to provide college credit courses for adults. Lesson materials include newspaper articles, broadcast television, audio cassettes, and textual materials. Instructional formats are designed to be appealing, as well as instructional. It is hoped that the materials, particularly the broadcast TV lessons, will attract and maintain the interest of adult learners.

The purpose of this study was to evaluate the appeal and effectiveness of several television lesson formats with adult audiences. Typical TV lessons have been essentially televised versions of lectures. They have been what is sometimes called televised instruction, rather than instructional television. Much of the research on instructional television at the college level has focused on evaluation of "talking face" formats. (Chu and Schramm, 1968) More recently, documentaries and several educational series have employed highly illustrated

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lecture formats (Kenneth Clark's Civilization). It was not, however, until the advent of programs like Sesame Street and Electric Company that television made significant inroads in accomplishing educational objectives with lesson formats that were entertaining and fun, as well as instructional. Recently, such formats have met with success in adult education programs (e.g. VD Blues). The purpose of this study was to determine whether similar formats (story-lines, magazine formats, etc.) could be employed with equal success for college level courses for adults.

Methodology

Subjects included 154 individuals ranging in ages from 17 to 58. Among the subjects were high school students, college age persons, and older adults. Included were volunteers and persons who had expressed an interest in actually taking a college course through an open learning system like S-U-N. Groups of 12 to 15 persons formed audience reaction panels and were brought to special rooms within the Nebraska Telecommunications Center to view video lesson segments in two college course areas, Accounting and Psychology. They were asked for their reactions to the lessons and to answer questions dealing with the subject matter of the lessons. Responses were obtained to the television segments in terms of their appeal, comprehensibility, memorability, and helpfulness in learning. (Palmer, 1973) The audience panels were encouraged to offer suggestions for improvement. In the process, they also provided information about their own educational background and interests.

Lesson segments were designed and evaluated by a course design team comprised of content specialists, an instructional designer, television producer, and educational psychologist. Evaluative efforts were pursued with the intention of providing quick feedback to the course design team for use in design of future lessons.

Four major television formats were employed, two in Accounting and two in Psychology. They included: (I) a story-line which ran through an entire lesson with dramatizations played "bigger-than-life" (Accounting), (II) a news-magazine format which dealt with different concepts in short segments and was played with humor (Accounting), (III) a narrator on screen who was a sharer-of-information (Psychology), and (IV) an authority-narrator in a highly illustrated, but non-lecture style (Psychology).

Respondents indicated on a seven-point scale their interest in broadcast educational television, interest in psychology and accounting, and interest in further education. Liking for the TV segments and ratings of usefulness were obtained on a five-point scale. Reported grade point average was obtained on a ten-point scale (A to D).

Results

The results will be presented as answers to key questions under two major headings, those relating to learning outcomes and those relating to attitudinal reactions. The relationship between the learning outcomes and attitudes will also be discussed.

Learning Outcomes:

1. Did the audience understand the main idea of the television segment? At key moments during the television lesson, the audience reaction panels were asked to write out the main idea of the segment they had just viewed. The television was stopped and the panel members were given time to write out their reactions as well as the main instructional idea. At least nine out of ten individuals were able to summarize in a sentence or two the instructional intent of each segment. There were no significant variations that were related to the specific TV formats.

2. Did the audience reaction panels learn from the television segments? For the Accounting lessons, a test was constructed which focused primarily on the instructional objectives of the television segments, although the viewers were given some background written material prior to viewing the segments. For Lesson I, the audience panels averaged 80% correct, which surpassed the criterion level (70%) established by the course design team. On a more advanced lesson with no preparation, the audience panel averaged 60% on the tests which also surpassed the criterion level (50%).

Achievement was not as high on the Psychology tests, averaging 50%. This was very likely a function of the test itself.

3. What aspects of the television formats were most memorable? Several days after the field testing, the panel members were asked to indicate on a postcard what they remembered most from the experience. The question was intentionally left open-ended in order to determine whether or not they would respond with a reference to the subject matter, to the production format, or to the testing procedure. As the cards were returned the responses were classified by these categories.

Results varied depending upon the lesson topic and the TV format. Responses to the story-line format with "bigger than life" characters for the Accounting lesson were divided with about a 2 to 1 ratio of production comments to references to the instructional topic. The references to production were about equally divided between positive and negative remarks. Responses to another format for an Accounting lesson, a magazine format with subtle humor, were about 3 to 1 production to content, with the majority of production comments being critical.

The Psychology lessons utilized a more documentary approach with a narrator. For these lessons the responses were almost entirely related to production and

were, with very few exceptions, quite positive. The Panels who viewed the Psychology lessons were apparently reacting to what they judged to be a highly positive learning experience.

Attitudinal Reactions: The audience reaction panels were asked for their reactions in both a paper and pencil format and in an interview. These reactions and their relationships to key demographic and background variables are summarized in this section. Because of the exploratory nature of this study, only those correlations significant at the .01 level or beyond will be discussed.

1. Are there relationships among key learner attitudes and backgrounds? Intercorrelations among the initial attitudes and descriptive data were consistent with what might be projected. Initial interest in watching broadcast educational television was significantly correlated with level of education (.35) and interest in Accounting as a field of study (.30). Level of education was significantly related as well to reported grade point average (.30) as was an expressed interest in further education (.37). Interest in Psychology as a subject to study was negative, it correlated (-.25) with a comparable interest in Accounting, suggesting that the interests are derived from different motivations and backgrounds. Interest in further education was moderately related to an initial interest in Psychology (.22).

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Insert Table 1

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2. Are learner attitudes and backgrounds related to reactions to TV lessons? There were a number of significant correlations between initial attitudes and background variables and outcome measures, suggesting that learner characteristics are related to learning and satisfaction outcomes. Expressed initial interest in watching broadcast educational television, for example, was related to ratings

of the usefulness of the TV lessons as learning tools (.24) and to achievement on the Accounting content test score (.28). As might be expected, level of education was related to achievement in both Accounting (.45) and Psychology (.37), as was reported past achievement (Accounting, r =.30; Psychology, r =.37). Level of education (-.38) and past academic achievement (-.33) were significantly negatively correlated with interest ratings of the Accounting lessons.

Initial interest in the subjects as fields of study was also related to outcomes and reactions. An interest in Psychology was related to liking ratings for both Accounting (.52) and Psychology (.39) and to usefulness ratings (.24). Interest in Accounting as a field of study, on the other hand was negatively, but not significantly related to liking ratings, but was positively related to achievement on the Accounting test (.21).

An expressed interest in further education was not significantly related to any of the outcome measures.

Liking ratings for the television segments were fairly independent. For the Accounting segments they correlated significantly with achievement in Accounting (.51), though the same did not hold true for Psychology. A liking for the Psychology segments did correlate significantly with usefulness ratings (.53), the later also correlating with achievement in Accounting (.21). Achievement on both content tests correlated .30.

These data can be best summarized by looking at the two key outcome measures, liking and learning. Liking for the Accounting segments was related to achievement on the content test score and reported past grade point averages, but negatively to level of education. This is consistent with the interview data discussed later; the particular Accounting lesson segments were humorous and light and were seen by some viewers as too simple or childish.

Liking for the Psychology segments, which employed more traditional, realistic, and illustrative instructional formats, was related to initial interest in the subject and usefulness ratings, but not to achievement.

Achievement in Accounting was highly related to past academic experiences including level of education, interest in broadcast educational television, and past grade point average, as well as initial interest in the subject and liking for the segments. Achievement on the Psychology content tests was related to level of education, but was otherwise fairly independent.

3. Were interview responses consistent with objective data and helpful to the design and production process? Panel members were interviewed in groups of three after viewing the television segments by trained interviewers. The interviews were recorded and summarized for analysis and sharing with the design and production staff.

The interviews provided invaluable data for clarifying the objective data, providing almost immediate feedback information, and enriching the evaluative data. Interview formats were semi-structured providing flexibility for probing for some of the "whys" behind reactions and determining the depth of the reaction, be it positive or negative.

The interview data, which was summarized and reviewed prior to the availability of the results of the rating scales and other objective data, was in actuality corroborated by the more objective data, rather than the other way around. This procedure made it possible to provide feedback to the course design teams within 24-48 hours after production.

Interviews also made it possible to obtain serendipitously unanticipated responses. The extent of audience identification with the television presenters, for example, would have been difficult to obtain in a more parsimonious manner.

It was also found that the more serious-minded student did not appreciate the lighter, novel instructional approaches in Accounting as did persons expressing less initial interest in the subject. Some had difficulty in what seemed to them an incongruency between enjoyment and learning. The Psychology segments, which demonstrated actual experiments, were positively received as well as being highly memorable. Overall the interview and the questionnaire data raised real questions as to whether or not entertainment per se should be part of a format for learners highly motivated to learn college level material.

Conclusions

After extensive reviews of the data by the entire course design team a number of conclusions were drawn regarding the value of the instructional television formats employed. Unfortunately, because the subject matter varied in each segment as well as the format, it is not possible to make comparisons between the formats. However, in view of the questionnaire and interview data, the course design team reached the following concludions:

1. In general, despite criticisms of specific segments, the audience panels were insistent that the approach was in the right direction. Young adults and current students, in particular, were highly supportive of efforts to employ formats other than the "lecturing professor."

2. There was seldom 100% agreement of any of the panel members on any issue; no one instructional format pleased everyone.

3. Serious panel members who were deeply interested in the subject matter tended to prefer lesson formats that had a minimum of entertainment and a maximum of direct instruction. There was general agreement that interesting instruction was preferred to entertainment.

4. Contrived and unrealistic scenes were generally received negatively, whereas real-life settings were generally received positively.

5. There was a general preference for some structure within the lesson segments--some guidelines regarding what was the instructional intent. Although this was most prevalent among the older adults, it appeared to be true of persons in all age groups.

6. Learners identified with story-line characters and wanted them to be believeable and successful. Character portrayals which were warm and problem solvers who were successful were most positively received.

In summary, it can be said that much more needs to be known about the relative effectiveness of instructional television formats for adults. The so-called talking face is probably no less effective for instructional goals as is a highly produced dramatization for certain kinds of learners. However, vignettes and story-lines can hold the interest of a varied audience with different motivational backgrounds, if there is a proper integration of "entertainment" and instruction.

References

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Palmer, Edward L., "Formative Research in Educational Television Production: The Experience of the Children's Television Workshop" in Quality in Instructional Television edited by Wilbur Schramm, Honolulu: University of Hawaii Press, 1973.

Table 1

CORRELATION MATRIX OF ATTITUDES AND OUTCOMES*

	1	2	3	4	5	6	7	8	9	10	11
1		35	11	30	03	19	07	07	24	28	14
2	35		09	06	20	30	-38	-01	03	45	37
3	11	09		-25	22	14	52	39	24	03	08
4	30	06	-25		15	07	-19	-08	-17	21	-06
5	-03	20	22	15		37	03	08	-11	-02	14
6	19	30	14	07	37		-33	04	02	27	37
7	07	-38	52	-19	03	-33		10	00	51	08
8	07	-01	39	-08	08	04	10		53	-15	-09
9	24	03	24	-17	-11	02	00	53		21	11
10	28	45	03	21	-02	27	51	-15	21		30
11	14	37	08	-06	14	37	08	-09	11	30	

1 Watching ETV
2 Level of Education
3 Interest in Psychology
4 Interest in Accounting
5 Interest in further education
6 Grade Point Average
7 Accounting TV liking ratings
8 Psychology TV liking ratings
9 Usefulness ratings
10 Accounting Content Score
11 Psychology Content Score

*Underlined coefficients are significant at .01 level.